



# Science – 8/9 Rotation 2, Term 2 – Crime – Lab Report Rubric

Student Name: \_\_\_\_\_ Experiment Title: \_\_\_\_\_ Date: \_\_\_\_\_

REPORT ELEMENT ESSENTIAL LEARNING ASSESSABLE ELEMENT	DESCRIPTORS					K&U	INV	COMM	REF
	E	D	C	B	A				
	The student work typically demonstrates evidence of the following:								
<b>Format</b> (e.g Title, Headings, Underlined, Dates, Names, Neatness, Bibliography)  <i>Contributes to evidence of the following Way/s of Working</i> communicate scientific ideas, explanations, conclusions, decisions and data, using scientific argument and terminology, in appropriate formats  <b>Communication</b>	<b>Disjointed communication through:</b> - missing or inaccurate title - missing headings or headings don't match contents of subsection - missing date with visible name of student/s - missing or unclear diagrams with limited or no labels - missing bibliography - format very difficult to read	<b>Sound communication through:</b> - broadly described title - most headings used appropriately - appropriate underlining of headings - clearly visible date and name of student/s - appropriate diagrams with accurate labels - accurate bibliography if applicable - legible or readable format	<b>Clear and accurate communication through:</b> - accurate and detailed titles - all relevant headings used - appropriate underlining of headings and key concepts/points - clearly visible date and name of student/s - neatly presented diagrams with all necessary items included and labelled accurately - detailed and accurate bibliography if applicable - easy to read format						
<b>Introduction</b> (a general description of what the experiment is about. What is the theoretical background?)  <i>Contributes to evidence of the following Knowledge and Understanding - Reaction rate is affected by various factors, including temperature, concentration and surface area.</i>  <b>Knowledge and Understanding</b>	Information presented reflects a vague understanding of the theory behind the experiment, with limited detail.  Shows a limited understanding of the factors that can affect the experiment.  Demonstrates unclear concept of the importance of the experiment.  Reliant upon teacher involvement.	Information presented shows a satisfactory knowledge and understanding of the theory behind the experiment.  Gives some relevant background information about factors involved in the experiment.  Explains why the experiment is relevant or important.  Some teacher assistance required	Information presented shows a comprehensive knowledge and understanding of the theory behind the experiment.  Provides clear and accurate background information about the scientific ideas.  Clearly explains why the experiment is relevant or important with insight.  Independent construction						
<b>Research Question</b> (also known as the aim or problem. What are you trying to find out?)  <i>Contributes to evidence of the following Way/s of Working - Identify problems and issues, formulate scientific questions and design investigations</i>  <b>Investigating</b>	Broad or ambiguous statement. Incorrect format  Reliant upon teacher involvement.	Competent statement using the correct format  Some teacher assistance required	Detailed and clearly identified and stated aim or purpose of the investigation.  Begins with 'To find out' or 'To investigate' or 'To...'  Independent construction						

ASSESSABLE ELEMENTS AND DESCRIPTORS OF QUALITY FOR A–E — QUEENSLAND CURRICULUM, ASSESSMENT AND REPORTING FRAMEWORK

<p><b>Hypothesis</b> (an educated prediction based upon the research you have done)</p> <p><i>Contributes to evidence of the following Way/s of Working</i> - plan investigations guided by scientific concepts and design and carry out fair tests</p> <p><b>Investigating</b></p>	<p>Unclear or inaccurate hypothesis given. Hypothesis given without links to evidence.</p> <p>Reliant upon teacher involvement.</p>	<p>Relevant hypothesis with links to evidence on which the hypothesis is based.</p> <p>Some teacher assistance required</p>	<p>Clearly identified and stated hypothesis, with accurate and relevant details of the observations or evidence on which the hypothesis is based.</p> <p>Independent construction</p>				
<p><b>Materials</b> (a list of all equipment and apparatus used in your experiment)</p> <p><i>Contributes to evidence of the following Way/s of Working</i> - select and use scientific equipment and technologies to enhance the reliability and accuracy of data collected in investigations</p> <p><b>Investigating</b></p>	<p>Incomplete materials list.</p>	<p>Materials listed. Eg Copper wire.</p>	<p>Materials clearly listed with detail. Eg Copper (Cu) wire 15cm in 5cm lengths.</p>				
<p><b>Method – Variables and Procedure</b> (Identify dependant, independant, controlled, uncontrolled variables. A clear step by step account of the procedure)</p> <p><i>Contributes to evidence of the following Way/s of Working</i> - plan investigations guided by scientific concepts and design and carry out fair tests</p> <p><b>Investigating</b></p>	<p>Inaccurate description of variables or reliant upon teacher involvement.</p>	<p>Relevant variables identified with some teacher assistance.</p>	<p>All relevant variables clearly and independently identified and described.</p>				
<p><b>Results</b> (The raw data collected)</p> <p><i>Contributes to evidence of the following Way/s of Working</i> communicate scientific ideas, explanations, conclusions, decisions and data, using scientific argument and terminology, in appropriate formats</p> <p><b>Communication</b></p>	<p>Data presented unclearly.</p> <p>Data missing.</p> <p>Reliant upon teacher involvement.</p>	<p>Data presented using appropriate graphs and tables.</p> <p>Some teacher assistance required.</p>	<p>Observations and measurements (data) presented using consistently clear, accurate and appropriate graphs and tables.</p> <p>Independent construction</p>				

ASSESSABLE ELEMENTS AND DESCRIPTORS OF QUALITY FOR A–E — QUEENSLAND CURRICULUM, ASSESSMENT AND REPORTING FRAMEWORK

<p><b>Discussion</b> (What do the results show? Is this expected? Can you explain unexpected results? What improvements? How does this experiment relate to future experiments or the wider world)</p> <p><b>Contributes to evidence of the following Way/s of Working</b></p> <ul style="list-style-type: none"> <li>- research and <b>analyse</b> data, information and evidence.</li> <li>- <b>evaluate</b> data, information and evidence to identify connections, construct arguments and link results to theory</li> <li>- <b>reflect</b> on learning, apply new understandings and justify future applications.</li> </ul>	<p>Cursory explanation of results.</p> <p>Inability to identify areas of potential weakness in the experiment.</p> <p>Reliant upon teacher involvement.</p>	<p>Competent explanation of result.</p> <p>Valid identification of some weaknesses in the design or execution of the experiment, or justification if no weaknesses.</p> <p>Some teacher assistance required.</p>	<p>Logical and clear explanation and justification of results, clearly identifying sources or error.</p> <p>Insightful identification of any weaknesses in the design or execution of the experiment.</p> <p>Independent construction</p>				
	<p>Limited ability to connect the experiment to the future.</p> <p>Does not recognise any limiting factors.</p>	<p>Competent reflection on the experiment with links to the future.</p> <p>One relevant limiting factor in carrying out the experiment provided.</p>	<p>Insightful reflection on the relevance or use of the experiment to the wider world or future experiments.</p> <p>Insightful reflection on improvements if necessary for future repeated experiments (multiple limiting factors)</p>				
<p><b>Conclusion</b> (How would you summarise your findings in a simple statement? Relate to the Research Question)</p> <p><b>Contributes to evidence of the following Way/s of Working</b> - draw conclusions that summarise and explain patterns, and that are consistent with the data and respond to the question</p>	<p>Cursory analysis and evaluation, generating unclear conclusions.</p> <p>Unclear links to the research question, hypothesis or results.</p>	<p>Generates credible conclusions by considering the scientific investigation process.</p> <p>A competent justification between the research question, the hypothesis and results.</p>	<p>Generates well-reasoned and thoughtful conclusions, considering the scientific investigation process used in the experiment, with justification.</p> <p>Well-reasoned and strong link to the research question, hypothesis and results.</p>				
	<p>Everyday language used. Written in first person.</p> <p>Consistently illogical and consistently incoherent sentences.</p> <p>Spelling and grammar errors significantly take away from the ability to read the report.</p> <p>Reliant upon teacher involvement.</p>	<p>Some spelling and grammar errors which do not significantly detract from the readability of the report.</p> <p>Some scientific terminology appropriately used.</p> <p>Logical and clear sentences.</p> <p>Some teacher assistance required.</p>	<p>Written in third person</p> <p>Clear use of scientific terminology.</p> <p>Consistently logical and clear sentences.</p> <p>Very few errors in spelling and grammar.</p> <p>Independent construction.</p>				
<p><b>Language</b> (Spelling, Punctuation, Grammar, Structure)</p> <p><b>Contributes to evidence of the following Way/s of Working</b> communicate scientific ideas, explanations, conclusions, decisions and data, using scientific argument and terminology, in appropriate formats</p> <p><b>Communication</b></p>				<b>On Balance Judgement</b>			

Comments: \_\_\_\_\_  
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